Observance of National Energy Conservation Day

Welcome

to

a presentation by

Prof. R.K.Chaudhuri

14th December 2014

- Every year 14th December is being observed as *National energy Conservation Day* to be aware of importance of energy and to save or conserve precious energy.
- The need of the hour is to go for a step further.
- Awareness is to be promoted to effectiveness in action to *minimize wastage / loss of energy.*

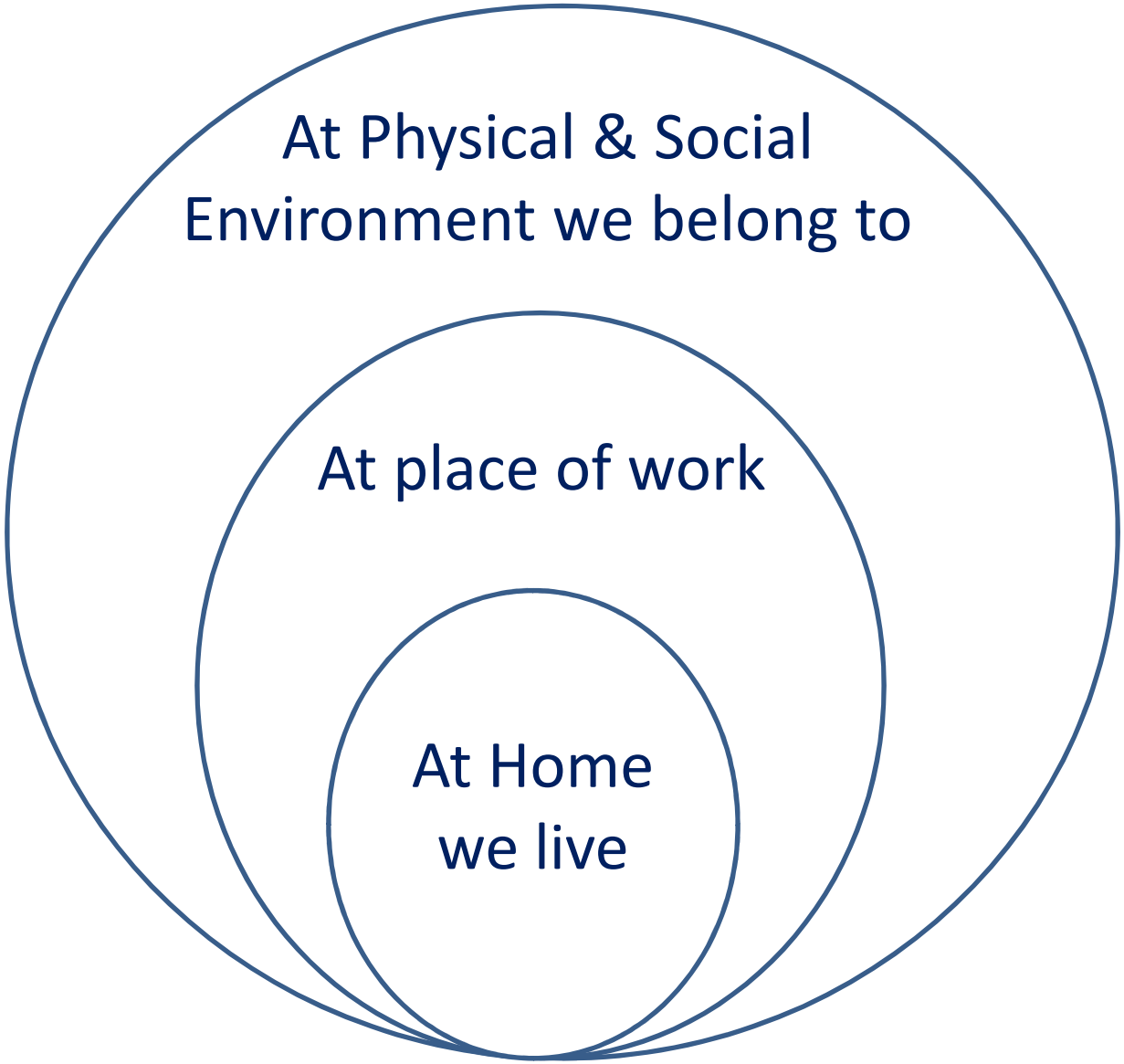
Electrical energy most versatile

- Electricity is essential ingredient in our daily life by way of *illumination, heating, cooling or motive power.*
- Substantial portion of electrical energy is being derived mainly from limited resources of coal or petroleum.

Energy is vital

- It is understood that less than half of available energy is only effectively used and balance is either lost or wasted.
- Transmission and Distribution loss is 22% and the *norm set by central authority is 15.5%.*
- The *norm set for PLF of thermal power stations is 75%* but present average is 63%.
- Goal has to be attained.

Areas of wastages and losses in our daily life



Measures to save

- The first step is to start with *self discipline* and develop habit of saving by switching off things that are not in use at that point of time.
- Saving a unit at the point of consumption results in about two times saving at the point of power generation.

What we can do

- We can try to make use of *more of natural light* in home, office or industry.
- Adopt *energy efficient lamps.*
- Minimize *waste of water* in toilets & bathrooms.
- Stress on *regular maintenance* of things used.
- Develop habit of **Reducing** wastages and **Recycle** wastes to energy.

Other measures

- Ensure **proper use** of *lights & fans;* geyser; *computers;* microwave oven; *air conditioner;* refrigerators; *gas stove;* TV; *pump to lift water;* staircase lamps or car driving for Home and Office.
- Change over to LED lamps systematically as early as possible.
- Stop *dripping taps*. About 4500 liters of water is lost per year.

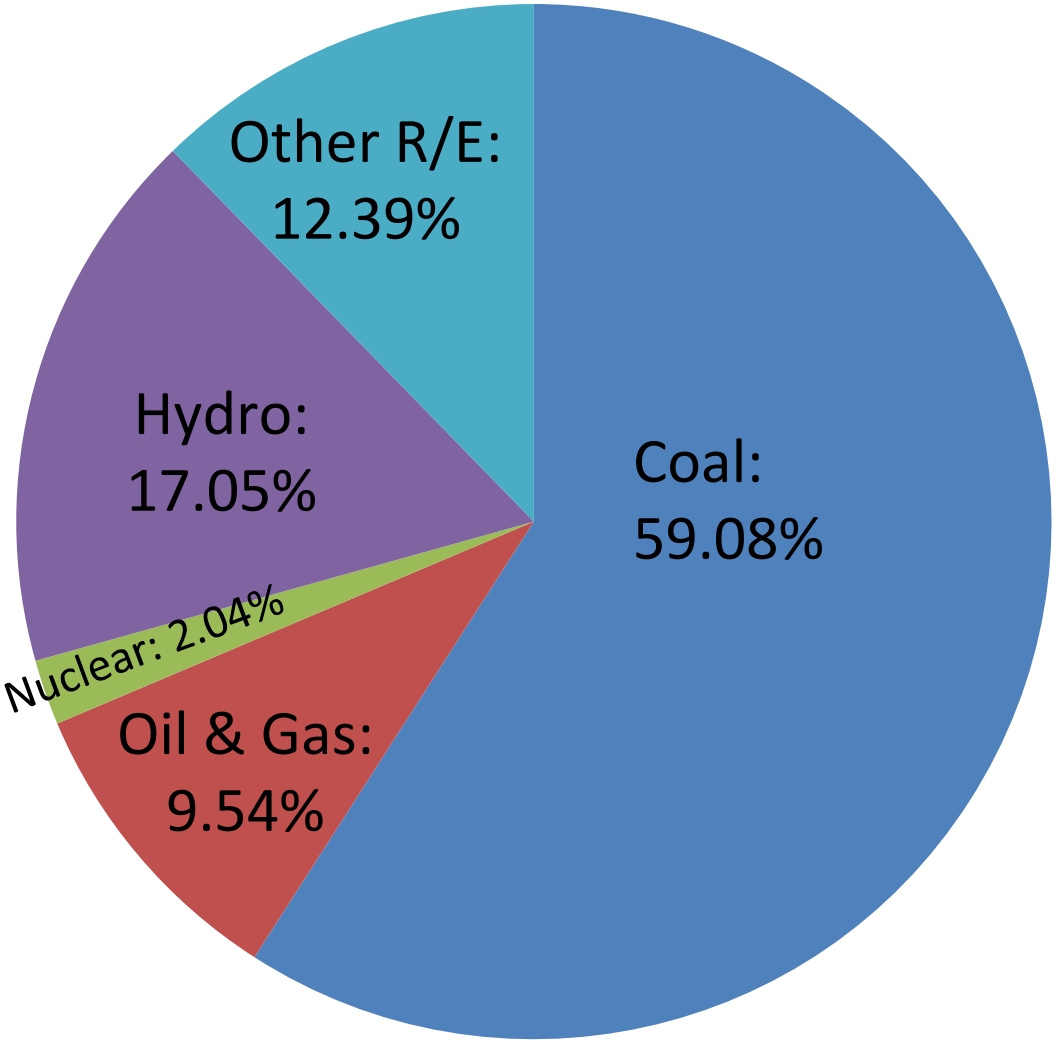
Energy efficiency

- Energy efficiency makes economic sense.
- UNIDO provides benchmarking tools, *'Energy Stars'* for residential, commercial and transport sector.
- Benchmarking is the baseline for measuring the progress.

Energy conservation

- Research need to develop tech - economic study for more energy efficient technology.
- To go for cogeneration to recover waste heat.
- To carry out Energy Audit, create database, analyze existing system, equipment and operation for modification or replacement.

Installed Capacity In India

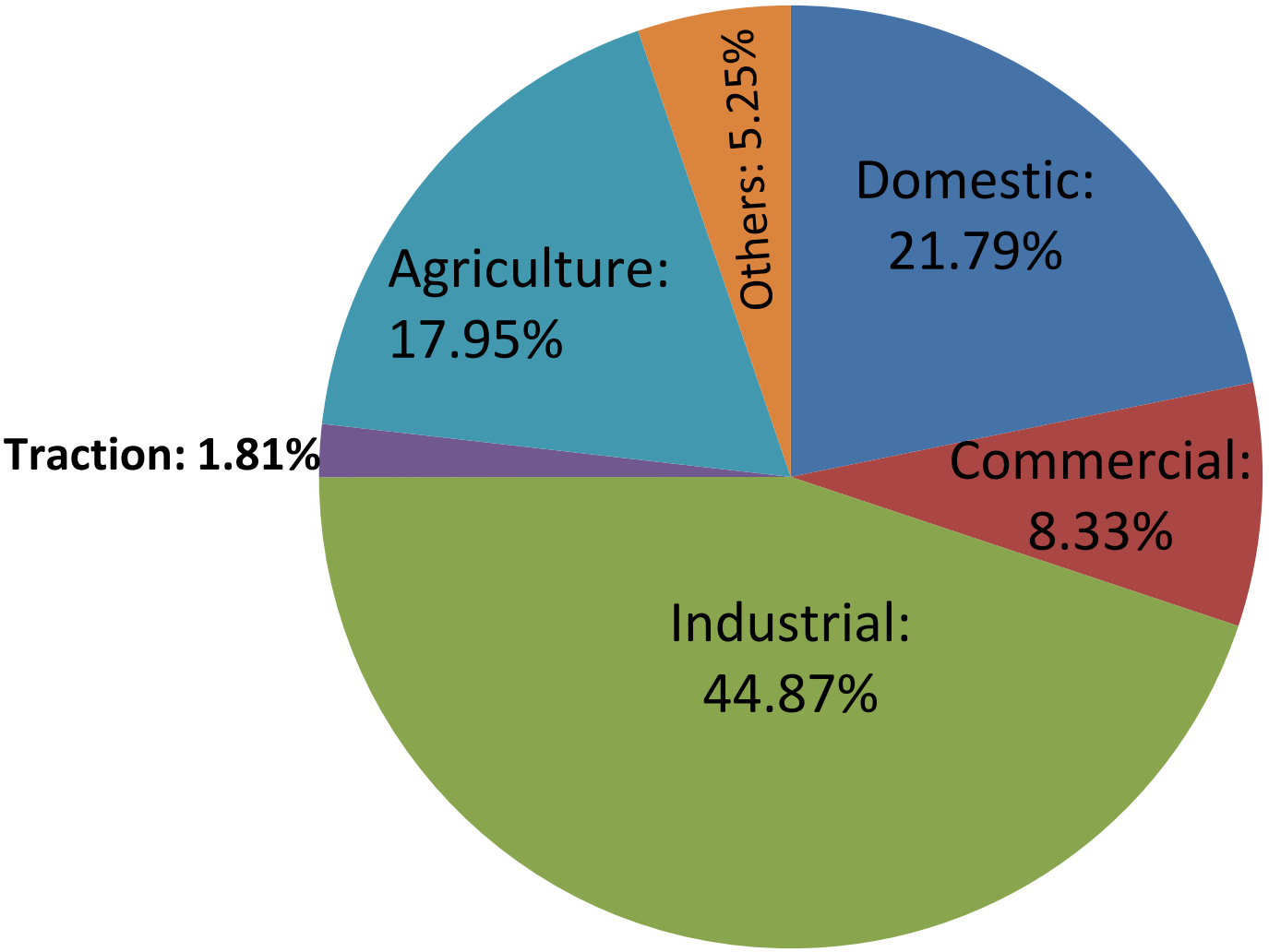


Renewable Energy Capacity in India

- Grid connected Installed capacity: (MW)
- Wind: 20298.83
- Small Hydro: 3774.15
- Solar: 2208.36
- Bio-mass: 1285.60
- Bagassee cogen: 512.88
- W 2 Power: 99.08
- Total: 30177.80

- Off Grid installed capacity: (MW)
- Bagassee cogen: 517.34
- SPV: 159.77
- Biomass industrial: 146.40
- Biomass Rural: 17.63
- Micro-hydro: 10.18
- W 2 Power: 119.63
- Total: 970.95

Energy Consumption



Per capita consumption

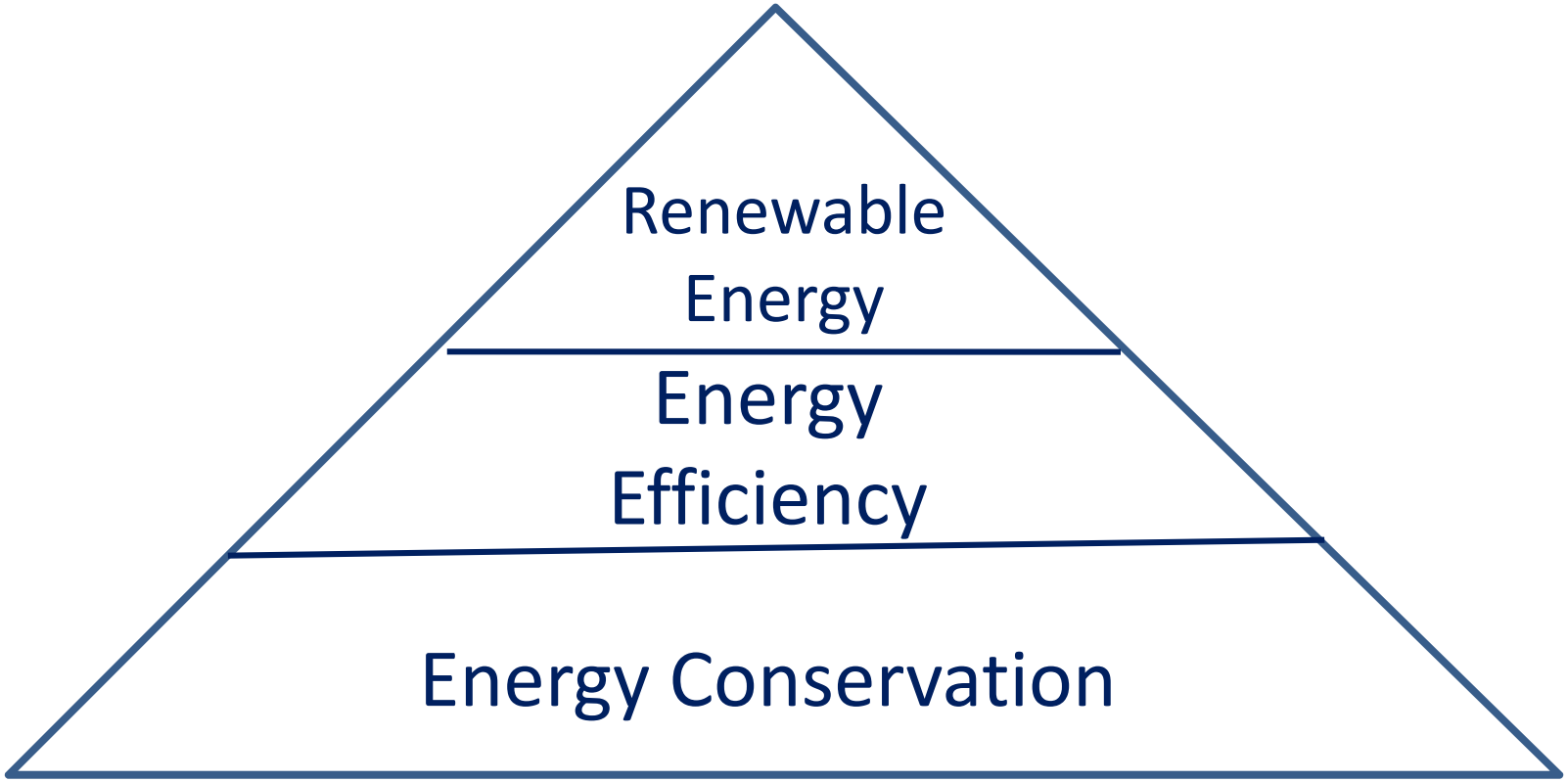
- The per capita consumption of electricity in India is currently estimated at 883.6 kwhr *as against a global average of 2429 kwhr.*
- India is the 4^{th} largest energy consumer in the world trailing only behind USA, China and Russia.

Base Load Deficiency

- The estimated total demand = 1,048,672 mu
- Available at present: 995,157 mu
- Shortfall is: 53,515 mu

- The *deficiency* is **5.37%**

To Make Up Deficiency



W 2 E

- Attempts are there in developed countries to convert Wastes (Biomass) into Energy.
- The process is collection & treatment of wastes obtained from variety of feedstock from forests, agriculture and Municipal Solid Waste (MSW).
- In India *Rag pickers* segregate card board, glass bottle, plastic containers, food waste and other household materials from the daily wastes for transportation to recycling and processing units.

Viable option

- It is not unlikely that non-conventional sources of energy would become a viable option in near future to replace conventional sources of energy thereby control and reduce GHG emission to the environment.
- Scope of bio-energy and conversion of waste like Municipal Solid Wastes (MSW) to power is gaining momentum.

“We did not inherit the earth from our parents but we borrow it from our children” said Chief Seattle.

Do we have any answer to the next generation for almost using all the coal or oil available now in nature?

Save Energy Save Earth

Save Future

Thank You for your Attention

Prof. R.K.Chaudhuri
Ph: 09331099711
Mail ID:
rkchau@rediffmail.com